

ABSTRACT

1 This invention is a computer implemented method of
2 approximating a gray scale tone with a more limited range
3 image producer. One of a plurality of tone curves is
4 associated with each pixel of a screening matrix. The plural
5 tone curves are approximated by a polynomial and the
6 polynomial coefficients are determined. The polynomial
7 coefficients are stored in a look-up table. Each pixel of an
8 image is mapped to a corresponding pixel of the screening
9 matrix. For each pixel the corresponding polynomial
10 coefficients approximating the tone curve are recalled and
11 used to compute a pixel output value from a pixel input value.
12 The polynomial is preferably of the third degree polynomial
13 and in a form easily computed using a digital signal processor
14 with a hardware multiplier and arithmetic logic unit.
15 Screening in this manner requires less memory storing the
16 screening data than the prior art pure look-up table
17 screening.